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PTO/SB/01 (03-01)

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<b>DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION</b> <b>(37 CFR 1.63)</b> <input checked="" type="checkbox"/> Declaration Submitted with Initial Filing      OR <input type="checkbox"/> Declaration Submitted after Initial Filing (surcharge (37 CFR 1.16(e)) required)	<b>Attorney Docket Number</b>	NTI-023
	<b>First Named Inventor</b>	Yong Liu
	<b>COMPLETE IF KNOWN</b>	
	<b>Application Number</b>	Filed Herewith
	<b>Filing Date</b>	Filed Herewith
	<b>Group Art Unit</b>	unknown
	<b>Examiner Name</b>	unknown

As a below named inventor, I hereby declare that:

My residence, mailing address, and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

### SYSTEM AND METHOD FOR CORRECTING 3D EFFECTS IN AN ALTERNATING PHASE-SHIFTING MASK

(Title of the Invention)

the specification of which

☒ is attached hereto  
 OR

☐ was filed on (MM/DD/YYYY)

as United States Application Number or PCT International

Application Number ☐ and was amended on (MM/DD/YYYY) ☐ (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or 365(b) of any foreign application(s) for patent, inventor's or plant breeders rights certificate(s), or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent, inventor's or plant breeder's certificate(s), or any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached?	
				YES	NO
N/A			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

☐ Additional foreign application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto:

I hereby claim the benefit under 35 U.S.C. 119(h) of any United States provisional application(s) listed below.

Application Number(s)	Filing Date (MM/DD/YYYY)	<input type="checkbox"/> Additional provisional application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.
N/A		

[Page 1 of 2]

Burden Hour Statement: This form is estimated to take 21 minutes to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

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## DECLARATION — Utility or Design Patent Application

I hereby claim the benefit under 35 U.S.C. 120 of any United States application(s), or 365(c) of any PCT international application designating the United States of America, listed below and, insofar as the subject matter of each of the claims of the application is not designated in the prior United States or PCT international application in the manner provided by the first paragraph of 31 U.S.C. 112. I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application.

U.S. Parent Application or PCT Parent Number	Parent Filing Date (MM/DD/YYYY)	Parent Patent Number (if applicable)
N/A		

☐ Additional U.S. or PCT international application numbers are listed on a supplemental priority data sheet PTO/SB/028 attached hereto.

As a named inventor, I hereby appoint the following registered practitioner(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith: ☒ Customer Number **29477** Place Customer Number Bar Code Label here  
OR ☐ Registered practitioner(s) name/registration number listed below

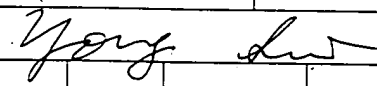
Name	Registration Number	Name	Registration Number

☐ Additional registered practitioner(s) named on supplemental Registered Practitioner Information sheet PTO/SB/02C attached hereto.

Direct all correspondence to: ☒ Customer Number or Bar Code Label **29477** OR ☐ Correspondence address below

Name					
Address					
City		State		ZIP	
Country		Telephone	+1 (408) 451-5907		Fax +1 (408) 451-5908

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

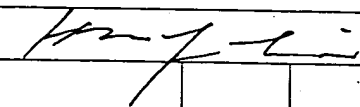
Name of Sole or First Inventor:		<input type="checkbox"/> A petition has been filed for this unsigned inventor					
Given Name (first and middle (if any))			Family Name or Surname				
Yong			Liu				
Inventor's Signature					Date	10/3/2001	
Residence: City	Fremont	State	CA	Country	US	Citizenship	Republic of China (Taiwan)
Mailing Address	40406 Torenia Circle						
City	Fremont	State	CA	ZIP	94538	Country	US

☒ Additional inventors are being named on the 1 supplemental Additional Inventor(s) sheet(s) PTO/SB/02A attached hereto:

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**DECLARATION**

**ADDITIONAL INVENTOR(S)**  
**Supplemental Sheet**  
 Page 1 of 1

<b>Name of Additional Joint Inventor, if any:</b>				<input type="checkbox"/> A petition has been filed for this unsigned inventor			
Given Name (first and middle (if any))				Family Name or Surname			
Hua-Yu				Liu			
Inventor's Signature					Date		10/8/01
Residence: City		Palo Alto	State	CA	Country	US	Citizenship United States
Mailing Address		3434 Waverly Street					
City		Palo Alto	State	CA	ZIP	94306	Country US
<b>Name of Additional Joint Inventor, if any:</b>				<input type="checkbox"/> A petition has been filed for this unsigned inventor			
Given Name (first and middle (if any))				Family Name or Surname			
Inventor's Signature					Date		
City			State		Country	US	Citizenship
Mailing Address							
City			State		ZIP		Country US
<b>Name of Additional Joint Inventor, if any:</b>				<input type="checkbox"/> A petition has been filed for this unsigned inventor			
Given Name (first and middle (if any))				Family Name or Surname			
Inventor's Signature					Date		
City			State		Country	US	Citizenship
Mailing Address							
City			State		ZIP		Country US

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DECEMBER 20, 2001

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\*101878293A\*

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RECORDATION DATE: 10/09/2001

REEL/FRAME: 012251/0395  
NUMBER OF PAGES: 3

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:

LIU, YONG

DOC DATE: 10/03/2001

ASSIGNOR:

LIU, HUA-YU

DOC DATE: 10/08/2001

ASSIGNEE:

NUMERICAL TECHNOLOGIES INC.  
70 WEST PLUMERIA DRIVE  
SAN JOSE, CALIFORNIA 95134

SERIAL NUMBER: 09974507  
PATENT NUMBER:

FILING DATE: 10/09/2001  
ISSUE DATE:

ANTIONE ROYALL, EXAMINER  
ASSIGNMENT DIVISION  
OFFICE OF PUBLIC RECORDS

10-19-2001

Form PTO-1595  
(Rev. 03/01)  
OMB No. 0651-0027 (exp. 5/31/2002)

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U.S. Patent and Trademark Office

Atty. Dkt. No.: NTI-023

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):

Yong Liu  
Hua-Yu Liu

10-9-01

Additional name(s) of conveying party(ies) attached?

☐ Yes ☒ No

2. Name and address of receiving party(ies):

Name: Numerical Technologies Inc.

Street Address: 70 West Plumeria Drive

City/State/Zip: San Jose, CA 95134

Additional name(s) &amp; address(es) attached?

☐ Yes ☒ No

3. Nature of conveyance:

☒ Assignment ☐ Merger  
☐ Security Agreement ☐ Change of Name  
☐ Other

Execution Date: 10/3/2001, 10/8/2001

4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is: 10/9/2001

A. Patent Application No.(s):

B. Patent No.(s):

Additional numbers attached? ☐ Yes ☒ No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name:

Jeanette S. Harms  
Bever, Hoffman & Harms, LLP  
2099 Gateway Place, Suite 320  
San Jose, CA 95110-1017

6. Total number of applications and patents involved: [1]

7. Total fee (37 CFR 3.41) ..... \$40.00

☐ Enclosed  
☒ Authorized to be charged to deposit account

8. Deposit account number: 50-0574  
(Attorney Docket No.: NTI-023)

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9. Statement and signature.

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Jeanette S. Harms

Name of Person Signing

Signature

10/09/2001

Date

Total number of pages including cover sheet, attachments, and document: [3]

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09/974507  
10/09/01

09/974507

ASSIGNMENT

For good and valuable consideration, receipt of which is hereby acknowledged, I/we

Yong Liu of 40406 Torenia Circle Fremont, CA 94538  
Hua-Yu Liu of 3434 Waverly Street Palo Alto, CA 94306

hereby sell, assign and transfer to Numerical Technologies Inc., a Delaware corporation, having a place of business at 70 West Plumeria Drive San Jose, CA 95134, its successors and assigns, the entire right, title and interest throughout the world in our invention in

**SYSTEM AND METHOD FOR CORRECTING 3D EFFECTS IN AN ALTERNATING PHASE-SHIFTING MASK**

for which we will execute a United States patent application on or about the date of this assignment, and all patent applications and patents of every country for said invention, including divisions, reissues, continuations and extensions thereof, and all rights of priority resulting from the filing of said applications; we authorize the above-named assignee to apply for patents of foreign countries for said invention, and to claim all rights of priority without further authorization from us; we agree to execute all papers useful in connection with said United States and foreign applications, and generally to do everything possible to aid said assignee, their successors, assigns and nominees, at their request and expense, in obtaining and enforcing patents for said invention in all countries; and we request the Commissioner of Patents and Trademarks to issue all patents granted for said invention to the above-named assignee, its successors and assigns.

Executed this 3 day of Oct., 2001.

Yong Liu  
Yong Liu

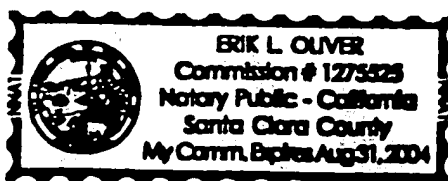
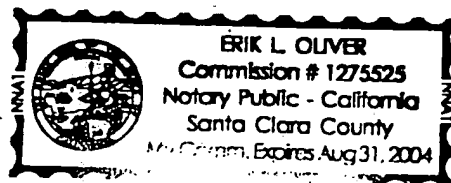
State of California )  
) ss.  
County of Santa Clara )

CAPACITY CLAIMED BY SIGNER  
( ) individual(s) signing for  
[ X ] oneself/themselves

On 3 Oct 2001 before me, Erik L. Oliver, Notary Public, personally appeared Yong Liu ☒ personally known to me ~~or~~ ☐ proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Erik L. Oliver  
Signature



Executed this 8 day of 10, 2001.

Hua-Yu Liu  
Hua-Yu Liu

State of California

) ss.

County of Santa Clara

CAPACITY CLAIMED BY SIGNER

( ) individual(s) signing for

[X] oneself/themselves

On 8 Oct 2001 before me, Erik L. Oliver, Notary Public personally appeared Hua-Yu Liu ☒ personally known to me ~~or~~ ☐ proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that ~~he~~ she executed the same in ~~his~~ her authorized capacity, and that by ~~his~~ her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Erik L. Oliver  
Signature

